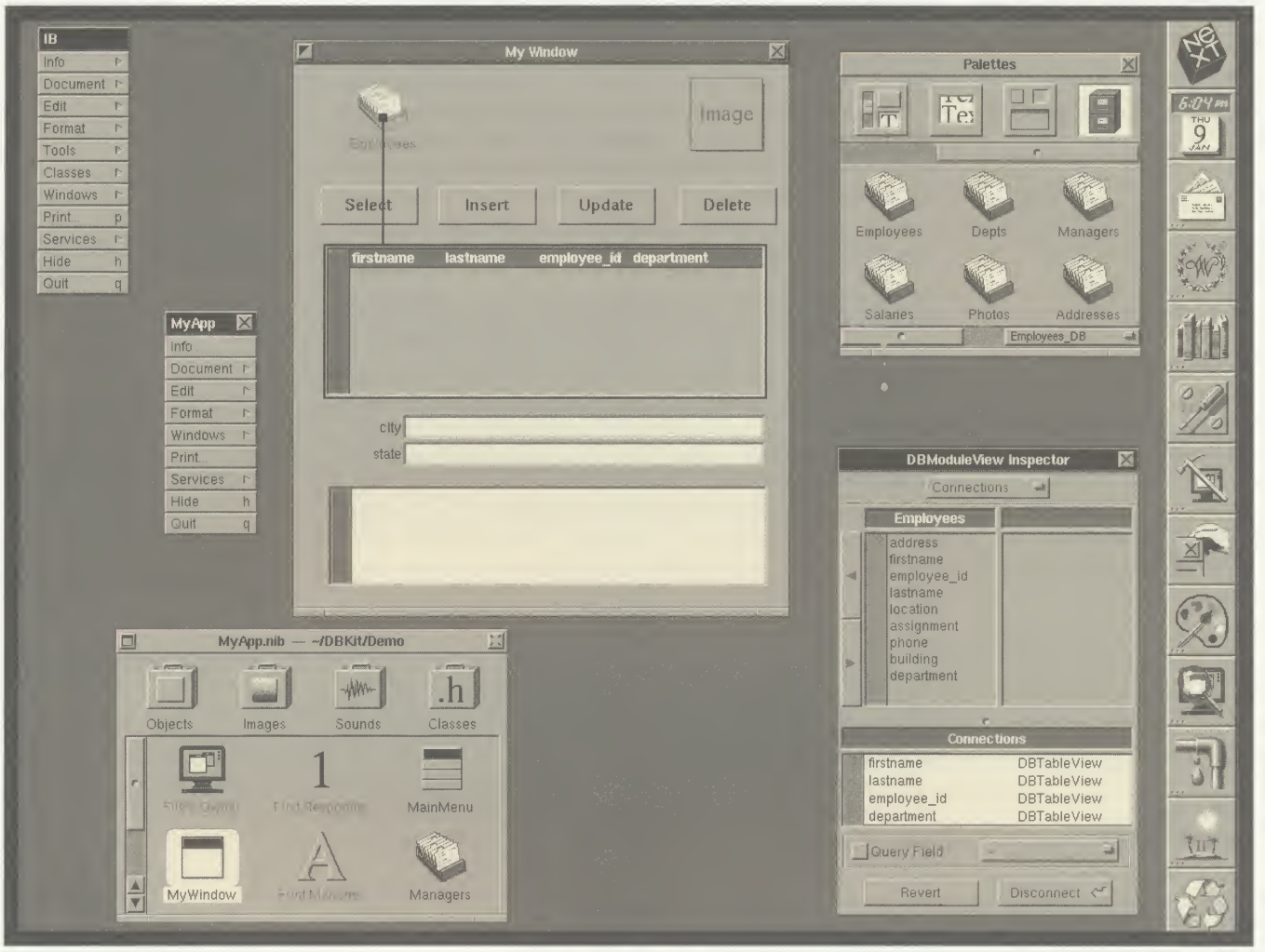
NeXT DATABASE KIT



The NeXT Database Kit™ (DBKit) extends the power of NeXTstep's object-oriented paradigm to database application development.

Encompassing a robust suite of object classes and methods, DBKit radically shortens the time required to design and implement database applications that have graphical user interfaces (GUIs). The management and control of database transactions within an application is simplified with DBKit.

DBKit allows you to design your applications in a database-independent fasion by providing database "adaptors." This unique architecture allows the migration of applications to new databases without the recoding of user interface and application logic.

DBKit also enables the intergration of data from multiple sources within a single, easy-to-use application. Data sources accessible via the DBKit architecture can include relational and hierarchical databases, on-line news feeds, and more.

All of the objects in DBKit work seamlessly with objects in NeXTstep's Interface Builder™ and the Application Kit.™ Applications developed with DBKit may easily incorporate all the functionality offered by NeXTstep,™ including interprocess communication, support for graphics and sound within an application, and cut/copy/paste functionality between applications.

Together, NeXTstep and DBKit provide an application construction environment that significantly reduces the effort required to design, implement, and maintain GUI-based database applications.

FEATURES AND BENEFITS

Toolkit of database-related objects	Extends the scope of the "building blocks" available in NeXTstep, dramatically reducing the time required to develop and deploy database-oriented applications.
Object-oriented architecture	All DBKit objects may be used "as is," or customized for a particular need. DBKit-based applications are thus flexible and extensible—the application developer is not locked into the functionality of a database vendor's specific language or forms package. Enables developers to add their own custom objects which can be shared across numerous applications. Provides for vast improvements in application maintenance—application developers do not have to worry that changes to one portion of the code may have unintended consequences that could propagate throughout the application.
Integrated development environment	All of NeXTstep's tools, including the DBKit, are designed to work together—optimized and seamlessly—allowing for a much more efficient development process.
Database-independent implementation	DBKit's layered architecture effectively isolates all of the application's basic logic from the semantics of how data is actually stored and retrieved in a particular vendor's database. This allows applications to be migrated to a different database without requiring the recoding of user-interface and application logic. It also allows the integration of data from multiple sources within a single application. The data sources may be relational databases from a single vendor or from multiple vendors, and may include on-line news feeds, hierarchical databases, and others.
Vendor-specific database "adaptors"	Adaptors translate database-independent information into a vendor's specific access language. Therefore, application developers need not worry about differences between various database vendor's access languages.
Open architecture	DBKit is based on a well-defined set of protocols so that new adaptors for accessing additional databases may be easily created.
Provides for the integration of C languages	Allows the development of robust database applications requiring extensive data verification and complex logic by using all the flexibility and creativity offered in the C, Objective C and C++ programming languages.
Standard high-level programming interface for manipulating data	Insulates the developer from the complexities of the underlying database by packaging explicit data relationships and attributes into easy-to-manage objects. This enables the developer to focus on the flow and presentation of data, instead of having to manually construct every query and deal with a variety of database library interfaces.
Supports specification of multiple types of relationships between data elements	DBKit applications may exploit the full relational power of databases by supporting one-to-one, one-to-many, master/detail, multi-level, and self-referencing relationships.
Supports multimedia data types	Using DBKit, a developer can build applications which manipulate a wide variety of nontraditional data types—from simple text and numeric fields to rich text, images, and sound. This multimedia information adds tremendous value to end-user applications, and can be a significant competitive advantage for an enterprise.

FEATURES AND BENEFITS

Supports various data selection methods	DBKit provides developers with the flexibility of incorporating various data selection methods into their applications: ▪ Fixed queries, where the parameters of the search are predefined by the application developer. ▪ Query-by-Example, which allows users to vary the values of the search criteria within a static set of data fields. ▪ Ad-hoc queries of arbitrary complexity, built with minimal restraint on the scope of data field values or data ranges involved.
Sophisticated buffer management capability	Stores the results of a query as a coherent "snapshot" of retrieved data elements. Enables efficient record processing, allowing random or sequential access to rows of data as they are retrieved from the database. Collects record modifications, insertions, and deletions before they are committed to the database, thus ensuring consistency in a multi-user environment, and allowing "undo" functionality.
Does not require additional software to be installed on the database server	Eliminates the risk of unknown dependencies or problems between this additional software and either the system software or other applications running on the server system.
Integrated end-user environment	Applications developed using DBKit maintain both the ease-of-use and the consistent look and feel which are the hallmarks of NeXTstep applications.
Integrated with other applications	DBKit applications can cut, copy, and paste data from other NeXTstep applications. In addition, they can request Services from other applications, such as Webster's Ninth New Collegiate Dictionary,® NeXT's Digital Librarian,™ or NeXTmail.™ More sophisticated database applications can be easily designed to access mathematical models in *Mathematica,*® or to send numerical information to Lotus™ Improv for charting or analysis.
Oracle support	The Oracle® Call Interface (OCI) and SQL*Net® are bundled with DBKit, enabling connections to any Oracle RDBMS.™
SYBASE support	The SYBASE DB-Library™ is bundled with DBKit, enabling connections to any SYBASE SQL Server.™
Supports the client/server computing model	Provides an ideal mechanism for integrating local, easy-to-use NeXTstep interfaces with computer-intensive searches running on remote cycle-servers, all within an easy-to-maintain application. End-users can access the critical data they need more quickly and reliably.

PRODUCT DETAILS

Adaptors bundled
- Oracle
- SYBASE

Adaptors for other databases are under development in conjunction with the database vendors. Call NeXT or your database vendor for details.

The database engines may be running locally on your NeXT™ computer, or remotely on any computer and accessed using TCP/IP.

SYSTEM REQUIREMENTS

To develop applications with the NeXT Database Kit, you will need NeXTstep Release 3 Extended (compatible with any NeXT computer).

Applications developed with the NeXT Database Kit can be run on any NeXTstep Release 3 system.

ORDERING INFORMATION

All NeXT computers will come preinstalled with either Release 3 or Release 3 extended configuration. In addition, a CD-ROM disk containing the entire release is included with the computer.

If you have a NeXT computer running Release 2, you can upgrade by ordering one of the following two products.

NeXTstep Release 3 on CD-ROM
(extended configuration)
USA and Europe
N5527

NeXTstep Release 3 on floppy disk
USA and Europe
N5528

For more information, call 1-800-TRY-NeXT

NeXT Computer, Inc. 900 Chesapeake Drive, Redwood City, CA 94063 USA

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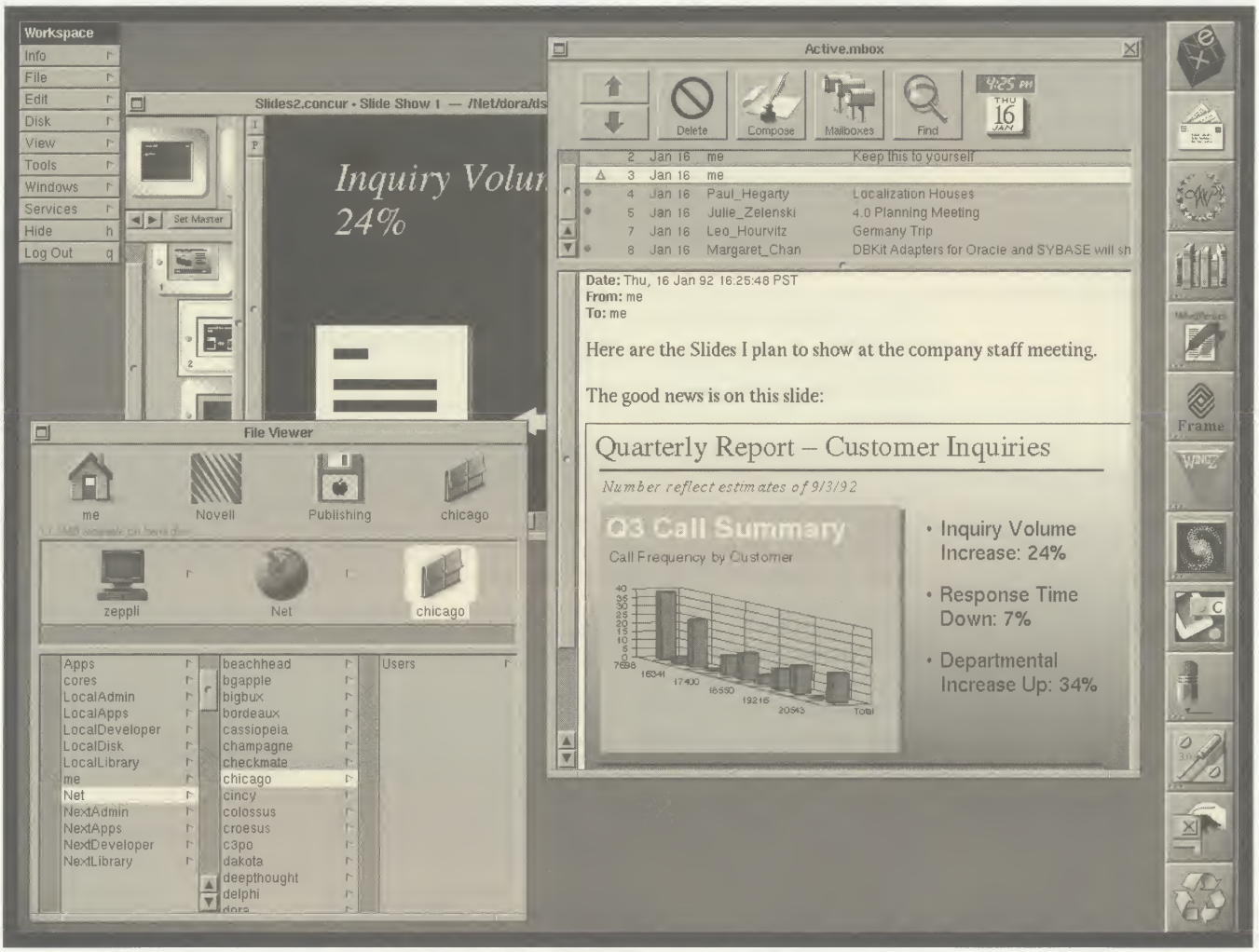
NeXTSTEP RELEASE 3



NeXTstep Release 3 adds database access, extensive connectivity, and information linking to the powerful, object-oriented NeXTstep architecture.

Over the past three years, NeXTstep™ has proven to be the premier graphical user interface and development environment for delivering powerful, integrated applications. Its object-oriented architecture not only makes creating custom applications easy, but also allows for quicker delivery of significant new system software features. Here are the highlights of our new release:

The object-oriented Database Kit™ dramatically reduces the effort required to design, implement, and maintain NeXTstep database applications. Additions of Novell® and AppleTalk® networking, along with Macintosh® disk access, allow users to share data with MS-DOS,® OS/2,® Windows,™ Macintosh, and UNIX® computers. And NeXTlinks,™ an information linking system, empowers workgroups to share dynamic information which is updated automatically.

In addition, Release 3 provides enhancements in areas such as secure wide-area electronic mail and professional color. Best of all, NeXTstep's fundamental object-oriented architecture lets Release 2 applications automatically take advantage of many new Release 3 features. And because object-orientation means innovation happens more rapidly, NeXTstep will continue to be the premier operating environment available.

NEW FEATURES AND BENEFITS

PC and Macintosh connectivity	Novell client and AppleTalk client capabilities for file and printer access. Macintosh and MS-DOS file system compatibility.	Provides connectivity in heterogeneous environments. Preserves your current investment in networks of PCs while you transition to NeXT™ computers.
NeXTlinks	A means of sharing information between documents such that changes made in one are automatically reflected in the other. Available in Release 3-compliant applications.	Makes it easy for workgroups to produce a collaborative document by streamlining the revision process. Provides assurance that the information you are working with is the most current.
On-line help	Context-sensitive with hyperlinks and graphics. A standard panel for every application. Available in Release 3-compliant applications.	Offers instant assistance for anything you click on. Lets you learn how to use an application as you work, without stopping for training.
PostScript® Level 2	Includes color in the device-independent PostScript imaging model. Compatible with PostScript Level 1.	Assures you that colors you see on the screen are what you get on the NeXT Color Printer and other PostScript printers (to the best of their physical capabilities). Automatically allows NeXT printers to take advantage of the newest PostScript release.
ISDN Networking	High speed voice and data transmission over digital ISDN lines in the US. Requires an ISDN line addaptor.	Allows you to remotely operate in your usual graphical environment (as opposed to character-based operation).
Pantone® Color	Available to every application through the standard Color Panel.	Allows you to use industry-standard colors in any application without additional cost.
Fax	Uses a network-shareable fax modem for sending and receiving. Available in every application.	Permits any user on a network to send and receive faxes from the desktop. Produces high-quality faxes due to PostScript rendering.
Multimedia compression	Lempel-Ziv for text, Audio Transform Coding for sound, JPEG for TIFF graphics, and Group 4 for faxes. Integrated into the NeXTstep environment.	Lets you store on average two to ten times as much media-rich information on your hard and floppy disks.
Diverse printer support	Support for NeXT, PostScript, and several non-PostScript printers (e.g., Epson LQ510). Allows altering of printer-specific parameters (e.g., alternate paper tray).	Lets you use a printer that fits your budget and quality guidelines without requiring extra software or hardware.
Customizable user environment	Preferences for screen background colors, system fonts, language preferences, and more.	Lets you tailor your computing environment to fit your personal style and needs, independent of which NeXTstep computer you use on the network.
Global system software	NeXTstep available in English, French, German, Spanish, Italian, Swedish, and Japanese.	Everything you see and hear can be in your native language. You can switch your environment to another language very easily.
Compatibility with previous releases	Binary compatibility with NeXTstep Release 2 applications.	Lets you run existing applications, which are automatically enhanced by many new features in Release 3. Preserves and enhances your investment in software, hardware, on-line information, and training.

NEW FEATURES AND BENEFITS

ESPECIALLY FOR APPLICATION DEVELOPERS...

Database Kit	An object-oriented toolkit for management of database transactions and their user interface. A database-independent layer. "Adapters" encapsulate vendor-specific interaction (bundled for Oracle® and SYBASE®).	Extends the power of object-oriented programming to data-intensive applications. Radically reduces the time required to design and implement graphical applications that interact with databases. Allows the migration of applications to different databases without recoding user-interface and application logic.
3D Graphics Kit™	Based on Pixar's RenderMan standard. A unified 3D imaging model, so the same code draws objects on both the screen and the printed page. Cooperates with 2D PostScript.	Lets developers easily add three-dimensional graphics to existing applications without being a 3D expert. Provides the necessary object and rendering framework for building sophisticated 3D applications.
Distributed objects	Messaging to objects on other computers or in other applications. Integrated with Objective C.	Extends the power of object-oriented programming to interapplication and intercomputer communication. Enables a new generation of collaborative workgroup applications.
Interface Builder™	A graphical object editor for building applications. Support for DBKit, on-line help, and localization. Enhanced support for inspectors and palettes of custom objects.	Helps you develop, test, and maintain consistent graphical user interfaces for NeXTstep applications. Lets you tailor your development environment to include custom and commercial objects.
Indexing Kit	Tools for efficiently storing, indexing, and retrieving record-based information.	Allows developers to manage amounts of structured information without the complexity of a commercial database.
Phone Kit	Object classes interfacing with analog telephone service and ISDN.	Enables a new generation of applications utilizing telephony capabilities to be quickly and easily developed.

PRODUCT DETAILS

ESSENTIAL APPLICATIONS

Workspace Manager™
A graphical environment for managing the documents and applications on the computer.

NeXTmail
A sophisticated electronic messaging system for sharing text, sound, and graphics among network users.

Edit
A mouse-based text editor for creating and editing ASCII or Rich Text Format (RTF) text files.

FaxReader
An application for reading incoming fax documents across a network. Used in conjunction with third-party fax modems.

Preferences
A graphical interface for changing personal preferences.

Digital Webster™
An application providing access to *Webster's Ninth New Collegiate Dictionary®* and *Collegiate® Thesaurus.*

Installer
A standardized tool for installing applications or files onto the hard disk.

Digital Librarian™
A full text indexing and searching tool for creating custom digital libraries.

Preview
An application which displays PostScript and TIFF files, before printing for example.

Terminal
A VT100™ terminal emulator that provides direct interaction with a UNIX shell.

IN EVERY APPLICATION

Help Panel
A consistent, context-sensitive, hypertext-based, on-line help system.

Color Panel
A standard interface for choosing colors.

Fax Panel
An extension of the Print Panel allowing the faxing of any document which can be printed.

Services
A facility enabling an application to utilize another application's algorithms to manipulate a standard data type.

NeXTlinks
A special type of copying which associates the pasted data with its original, and keeps the copy updated automatically.

Font Panel
A standard interface for selecting a PostScript font for text in a document.

Spelling Panel
A facility providing spell checking, allowing for end-user dictionaries.

Open/Save/Print Panels
Standard interfaces for opening, saving, and printing documents.

ADVANCED APPLICATIONS

Interface Builder
An application that lets developers edit objects via their graphical representations to interactivelybuild NeXTstep applications.

ProjectBuilder
A tool for managing the files, class definitions and compilation process associated with software projects.

GNU Objective C++ compiler
The GNU CC compiler, an ANSI-standard C++ compiler extended by NeXT to compile the Objective C language.

GNU GDB
A powerful, source-level debugger integrated with the Edit application.

Malloc Debugger
A tool for measuring the dynamic memory usage of applications, useful in detecting memory leaks.

AppInspector™
A graphical tool for browsing the object class hierarchy and viewing messages sent between objects.

ProcessMonitor
A graphical tool for examining and manipulating any running process.

Yap
An interactive PostScript previewer which lets users enter and execute PostScript code.

TEX™
A typesetting system for long or complex technical documents.

IconBuilder
A simple pixel-based editor for generating custom icons.

Shakespeare
Indexed, on-line text of The Oxford University Press Edition of *William Shakespeare: The Complete Works.*

Quotations
An application providing access to *The Oxford® Dictionary of Quotations.*

PRODUCT DETAILS

OBJECT-ORIENTED KITS

Application Kit™
A framework for all NeXTstep applications which includes object classes for everything from editing text and managing windows to interacting with the pasteboard.

Database Kit
A toolkit enabling vendor-independent access to databases, along with management and control of database transactions.

3D Graphics Kit
A framework including objects for integrated three-dimensional graphics applications, along with multihost rendering.

Indexing Kit
A toolkit for managing large amounts of structured information in a lightweight, consistant fashion (includes B* Tree structures for efficient indexing).

Phone Kit
Object classes controling and accessing both ISDN and analog telephone lines for voice and data applications. Used in conjunction with a third-party ISDN/analog line hardware adapter.

Sound Kit™
Object classes that access the hardware for recording and playback of sound.

NetInfo Kit™
Object classes providing access to NetInfo database information.

SYSTEM SOFTWARE

Mach
The Berkeley 4.3 BSD UNIX compatible operating system of NeXTstep, containing a small and efficient communication-based kernel which provides virtual memory and true multitasking.

Window Server
Screen manager capable of rendering Display PostScript® Level 2 and version 3.2 of Interactive and Photorealistic RenderMan.™

Sun® Network File System (NFS®) 4.0
Networking software allowing any NeXT computer to be a client or server to any other computer running NFS.

NetInfo™
A hierarchical and distributed database for maintaining network administration.

Novell Client
Novell NetWare® client software integrated with the UNIX file system, providing access to NetWare 286, NetWare 386, and Portable NetWare servers for file sharing and printing.

AppleTalk Client
AppleTalk client software integrated with the UNIX file system, providing connectivity to Ethernet-based Apple® networks for file sharing and printing.

Ethernet networking
IEEE 802.3a networking software permitting transparent data sharing over thin coaxial Ethernet cable and 10baseT twisted pair Ethernet cabling.

CD-ROM file system
A dynamically-loaded file system that supports CDs formatted with the ISO-9660, High Sierra, and Rockridge standards.

DOS file system
A dynamically-loaded file system integrated with the Workspace supporting initialization, reading, and writing of DOS floppy disks for easy file transfers.

Macintosh file system
A dynamically-loaded file system integrated with the Workspace which supports the initialization, reading, and writing of Macintosh disks (1.44 MB floppy and SCSI-based hard disks, along with CD-ROMs).

MIDI driver
A driver supporting electronic musical instruments abiding by the MIDI protocol.

Printer drivers
Drivers for NeXT and PostScript printers, as well as Epson LQ510

SCSI driver
A driver allowing users to plug in almost any hardware peripheral adhering to the SCSI-1 protocol.

Fax driver
A driver for sending and receiving facsimile documents. Requires a third-party fax modem.

SYSTEM ADMINISTRATION APPLICATIONS

Simple Network Starter
A simple but powerful tool for setting up small networks of NeXT computers.

UserManager
A tool for adding, modifying, and deleting both user accounts and user groups.

PrintManager
A tool for adding printers or fax modems, and monitoring the progress of print and fax requests.

NFSManager
A tool for exporting and mounting NFS volumes.

HostManager
A tool for configuring the administrative information of individual computers.

InstallTablet
A tool for installing Sketch1 or Wacom graphics tablets.

MailManager
A tool used to set up electronic mail on networks of NeXT computers.

NetInfo Manager
A graphical tool for accessing and manipulating a computer's NetInfo database.

BuildDisk
A tool for reformatting a disk and reinstalling software from another disk.

MISCELLANEOUS

Upgrader
A network-based application for upgrading Release 2 computers to Release 3 while preserving user data and configuration files.

Localized system software
The user interface for English, French, German, Spanish, Italian, and Swedish versions of NeXTstep.

Demonstration applications
Several simple applications showcasing NeXTstep functionality.

Examples
Programming examples demonstrating the usage of the NeXTstep API.

Developer documentation
Information indexed in Digital Librarian on the NeXTstep development environment and object specifications.

System administration documentation
Indexed information describing NeXTstep system administration.

UNIX manual pages
Indexed information on supported UNIX utilities.

SYBASE DB-Library™
All utilities needed by DBKit to access SYSBASE databases.

Oracle Call Interface, SQL*Net®
All utilities needed by DBKit to access Oracle databases.

SYSTEM REQUIREMENTS

NeXTstep Release 3 will run on any NeXT computer with a minimum of a 100 MB hard disk and 8 MB of RAM. Every NeXT computer comes with a CD-ROM containing all NeXTstep software of a given release. The software configuration preinstalled at the factory depends on hard disk size.

Release 3, preinstalled on NeXT computers with 100 MB- and 200 MB-class hard disks, encompasses the entire end-user software environment. It contains the essential applications, runtime portions of the object-oriented kits, all system software, system administration applications, and assorted other software.

Release 3 Extended, preinstalled on NeXT computers with 400 MB-, 600 MB-, and Gigabyte-class hard disks, includes a complete set of development tools. It contains all software in Release 3, the advanced applications, the complete object-oriented kits, and all miscellaneous software.

ORDERING INFORMATION

All NeXT computers will come with NeXTstep Release 3 (when the new release is available). To upgrade a NeXT computer running Release 2, order one of the following two products:

NeXTstep Release 3 on floppy disk
USA and Europe
N5528

NeXTstep Release 3 on CD-ROM

USA and Europe
N5527

For additional information, call 1-800-TRY-NeXT

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